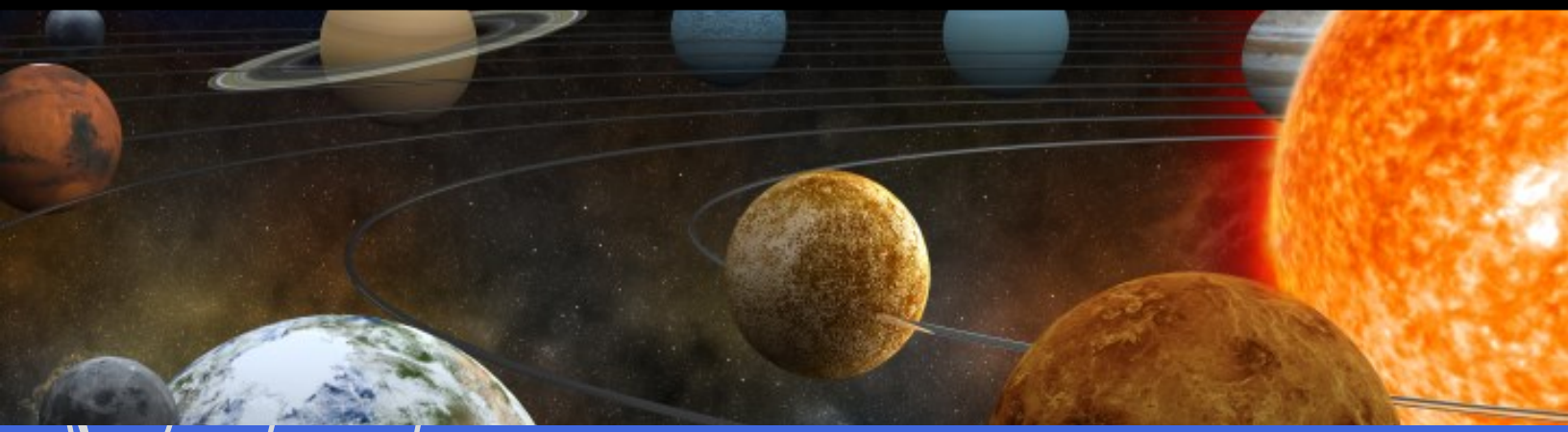
National Aeronautics and Space Administration

CP4SMPVC | Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers

2015 Reverse Site Visit

Jet Propulsion Laboratory
Pasadena, CA
March 3-5, 2015

PROGRAM GUIDE



About CP4SMPVC

Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities (CP4SMPVC)

When NASA was created in 1958, the National Aeronautics and Space Act directed that the agency "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." For over 55 years, NASA has met this directive through its communications and education efforts.

NASA's education programs work in collaboration with other Federal agencies to improve the quality of science, technology, engineering, and math (STEM) education in the United States, which supports both NASA's strategic plan and the Administration's STEM policy. NASA's contribution to STEM education brings immediate benefits to schools and other institutions, while helping to ensure that future generations of Americans will have the technical skills needed to continue NASA's missions.

The Competitive Program for Science Museums and Planetariums began in Fiscal Year 2008 when Congress reallocated the NASA Office of Education budget to establish "a competitive program as authorized by section 616 of Public Law 109-155 for science museums and planetariums to enhance programs related to space exploration, aeronautics, space science, Earth science or microgravity." Congress also urged NASA to use education funds to address the educational needs of women, minorities, and other historically underrepresented groups. Since Fiscal Year 2011, NASA Visitor Centers and other informal education institutions have been included in the competitive program. The program has sought STEM projects to infuse cutting-edge NASA research and development activities into curriculum development and implementation, teacher preparation and professional development, effective teaching, out-of-school activities and educational technology.

From inception to date, 70 grants or cooperative agreements have been awarded in six cohorts to almost 50 organizations in 25 states and the District of Columbia with an average award of $579,000 with periods of performance from one to five years. The partnerships developed through this program are maintained through the NASA Museum Alliance. From aeronautics in Iowa to student career ladders in Washington state, exoplanets in Ohio, and linking Chicago students to NASA scientists, these activities have impacted communities across the nation. The projects and products developed via CP4SMPVC are summarized on the CP4SMPVC website (https://informal.jpl.nasa.gov/museum/CP4SMP). A partnership with the National Science Foundation-funded Center for the Advancement of Informal Science Education (CAISE) has been established to further share these projects and products with the broader informal science education community.

NASA is restructuring its education-related activities in order to streamline and maximize the opportunities it can offer within allocated fiscal resources. Starting in FY 2012 NASA's STEM Education and Accountability Projects, or SEAP, became one mechanism used to reduce program fragmentation through the competitive consolidation of NASA's Office of Education historic formal and informal education activities. All Office of Education competitions and activities will align to NASA's Strategic Plan and to the 5-Year Federal Science, Technology, Engineering, and Mathematics (STEM) Education Strategic Plan prepared in response to the requirements of the America Competes Reauthorization Act of 2010 by the Committee on STEM Education (CoSTEM) of the National Science and Technology Council.

For more information please visit http://www.nasa.gov/audience/foreducators/informal/museplanetariums-index.html.

To keep track of news related to CP4SMPVC+, please subscribe to NASA's Education Express listserv at http://www.nasa.gov/audience/foreducators/ExpressLanding.html.

JPL

OFFICE OF THE DIRECTOR

Welcome to the Jet Propulsion Laboratory

On behalf of the NASA and Caltech families, we welcome you to the Jet Propulsion Laboratory. JPL grew up with the Space Age and helped bring it into being. It is a place where science, technology, and engineering intermix in unique ways: to produce iconic robotic space explorers sent to every corner of the solar system, to peer deep into the Milky Way galaxy and beyond, and to keep a watchful eye on our home planet. Analyzing the data pouring back from these machine emissaries, scientists around the world continue to discover how the universe, the solar system, and life formed and evolved.

We are proud to be both part of Caltech and NASA's only Federally-funded research and development center, working alongside the nine other NASA Centers and with the world's space agencies. We count ourselves lucky to live, work, and play in culturally and technologically rich Southern California, set between the vast Pacific Ocean and the beautiful San Gabriel Mountains.

We feel honored to host your visit as creators and innovators representing museums, science centers, planetariums, NASA Visitor Centers, and youth-serving organizations from across the country. Education is vitally important to the economic and healthy well-being of our planet and our country; it has often been said "it is what you learn after you think you know it all that really counts." Education does not begin nor end in the classroom; we learn throughout our lives, and your organizations have unique assets and relationships to facilitate learning for people of all ages and backgrounds. I am also pleased about the concept of STEAM – adding the A, as in art, to STEM.

Please enjoy your visit to JPL and to Southern California, and join us as we continue to dare mighty things.

Charles Elachi
Director, Jet Propulsion Laboratory

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY

4800 Oak Grove Drive
Pasadena, California 91109-8099
(818) 354-5673

Welcome to the 2015 CP4SMPVC Reverse Site Visit!

March 3-5
Jet Propulsion Laboratory, Pasadena, CA

Management Team & Support Staff

Mary Frances Sladek
HQ Office of Education Audit Liaison Representative (Acting)
Outcome Manager, Informal Education
Director, STEM Education and Accountability Program
Co-Manager, NASA Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers, Plus Other Opportunities
National Aeronautics and Space Administration
Washington, D.C.

Stephanie Brown-Houston
Education Program Specialist
NASA Glenn Research Center
Cleveland, OH

Leslie L. Lowes
CP4SMP NASA Informal Education Projects Specialist
NASA Jet Propulsion Laboratory, California Institute of Technology
Pasadena, CA

Tammy Rowan
Manager, Academic Affairs Office
NASA Marshall Space Flight Center
Huntsville, AL

Anita M. Sohus
Manager, NASA Museum Alliance
Co-Manager, NASA Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers, Plus Other Opportunities
NASA Jet Propulsion Laboratory, California Institute of Technology
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CP4SMP Support

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Informal Education Specialist
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Pasadena, CA

Table of Contents

NASA CP4SMPVC Awardees Reverse Site Visit 2015

Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers

March 3-5
NASA Jet Propulsion Laboratory
Pasadena, CA

Program Agenda

OPTIONAL Day 1: Tuesday, March 3, 2015

8:15 am

Bus departs from Courtyard Marriott Pasadena for JPL

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8:30 am – 9:00 am

Check-In & Badging *(JPL Visitor Reception)*

……

9:00 am – 12:00 pm

Optional Tour of JPL *(von Karman Visitor Center, Space Flight Operations Facility, Spacecraft Assembly Facility, Earth Science Center and technical sites)*

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12:00 pm – 1:00 pm

Optional Lunch *(303 Café)*

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12:00 pm
Bus departs from JPL for Courtyard Marriott Pasadena

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12:30pm
Bus departs from Courtyard Marriott Pasadena for JPL

……

All Non-Civil Servants MUST be escorted at all times.

OPTIONAL Day 1: Tuesday, March 3, 2015

1:00 pm – 4:00 pm

Optional Small-Group Working Meetings with JPL Education/Public Outreach/Subject Matter Experts

Topics include: *Journey to Mars, EarthRightNow, Solar System, and Beyond*

……..

4:15 pm

Bus departs JPL for Courtyard Marriott Pasadena

6:30 pm – 9:00 pm

Optional Reverse Site Visit Check-In and packet pick-up
(Courtyard Marriott Pasadena, hotel lobby, outside Colorado Room)

……..

6:30 pm – 8:00 pm

REQUIRED NASA Civil Servant Tag-Up *(Colorado Meeting Room, Marriott Hotel)*

Day 2: Wednesday, March 4, 2015

7:15 am

Bus departs Courtyard Marriott Pasadena for JPL

……

7:30 am – 8:15 am

Check-in & Badging *(JPL Visitor Reception)*
Poster-Set-Up & Networking *(Main Conference Room 321-B20)*
FINAL LUNCH PAYMENTS DUE *(See Jessica Parker)*

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8:15 am – 10:00 am

Welcome & Overview *(Main Conference Room 321-B20)*
Leslie Lowes and Anita Sohus, Organizers, NASA/JPL CP4SMPVC Management Team

JPL Welcome Panel
Blaine Baggett, Director for Communications and Education, JPL
Dr. Parvin Kassie, JPL Education Office Director

Navigation & Safety for JPL Building 321
Jessica Parker, NASA/JPL Informal Education Group

Outcomes, Introduction of Participants, and Ice-Breaker
Leslie Lowes and Anita Sohus

……

10:00 am – 10:15 am

Break *(light refreshments available)*

……

10:15 am – 11:05 am

Federal STEM Education Program and NASA Education Update, *(Main Conference Room, 321-B20)*
Mary Sladek, NASA STEM Education and Accountability Program Director

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11:05 am – 11:35 am

Meeting Co-STEM: Evidence-Based Practices *(Main Conference Room 321-B20)*
Kirsten Ellenbogen, Co-Principal Investigator, NSF-funded Center for the Advancement of Informal Science Education (CAISE)
President and CEO, Great Lakes Science Center/NASA Glenn Visitor Center

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All Non-Civil Servants MUST be escorted at all times.

Day 2: Wednesday, March 4, 2015

11:35 am – 12:00 pm

CP4SMPVC Project Overviews, Group 1 *(Main Conference Room 321-B20)*

Aero Institute
Aquarium of the Pacific
Bishop Museum
Board of Education of Prince George County/ Howard B. Owens Science Center
Boston Children's Museum
California Science Center
Children's Museum of Indianapolis
Dayton Society of Natural History dba Boonshoft Museum
Discovery Museum
EdVenture, Inc
Franklin Institute
Patricia and Phillip Frost Museum of Science
Girlstart
Great Lakes Museum of Science, Environment, and Technology
Maryland Academy of Science
Milwaukee Public Museum

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12:00 pm – 1:00 pm

Lunch Break *(Main Conference Room 321-B20)*
Pre-paid box lunches delivered

……

1:00 pm – 2:30 pm

Co-STEM and NASA Goal 2.4: Broadening Participation *(Main Conference Room 321-B20)*
***Moderators**: Leslie Lowes and Kirsten Ellenbogen*
Panelists:

STEM Engagement, *Zeta Strickland, Pacific Science Center*
Historically Underrepresented Groups in STEM,
Tamara Hudgins, Girlstart;
Jeannette Myers, Francis Marion University
Improving STEM Instruction, *Marc Drews, EdVenture Children's Museum*
Coordinated STEM Education from an organizational perspective,
Nicole Kowrach, Museum of Science and Industry;
Bryan Wunar, Museum of Science and Industry

How can science museums, planetariums, Visitor Centers, and others frame their work to support alignment with Co-STEM?
What do these priority investments look like in the field, and what works?
How do you measure impact?

……

2:30 pm – 2:55 pm

CP4SMPVC Project Overviews, Group 2 *(Main Conference Room 321-B20)*

Museum of Science and Industry, Chicago (2)
NASA Ames Research Center
NASA Goddard Space Flight Center
Pacific Science Center (2)
Saint Louis Science Center
Science Museum of Minnesota (2)
ScienceSouth
Smithsonian Institute NASM
Space Science Institute
University of North Carolina Morehead Planetarium and Science Center
U.S. Space & Rocket Center
Virginia Air and Space Center

Day 2: Wednesday, March 4, 2015

2:55 pm – 3:10 pm

Break/ Change Rooms *(light refreshments available)*

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3:10 pm – 4:20 pm

Diving Deeper Peer-to-Peer Session *(Break Out Rooms)*
Outcomes: Build knowledge and learn practical tips from the successes, challenges, adaptations, and benefits of implementation from grantee and NASA peers
Build contacts with knowledgeable colleagues as seed for developing or strengthening relationships.

- Online learning/social media/technology *(321-163 Conference Room)*
- Partnering with community-based and other organizations (*321-129 Conference Room)*
- Planetarium shows *(321-418 Conference Room)*
- Reaching non-traditional audiences *(Main Conference Room 321-B20)*
- Youth programs *(321-215 Conference Room)*

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4:20 pm – 4:30 pm

Return to Main Conference Room (321-B20)

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4:30 pm – 4:45 pm

Wrap-Up and Announcements *(Main Conference Room 321-B20)*

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5:00 pm

Bus departs JPL for Courtyard Marriott Pasadena

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6:30 pm

OPTIONAL Group Dinner *(Pre-RSVP required, reservation under "Jessica Parker")*
El Cholo Mexican Restaurant
Paseo Colorado
260 East Colorado Boulevard
Pasadena, CA 91101
(626) 795-5800

All Non-Civil Servants MUST be escorted at all times.

Day 3: Thursday, March 5, 2015

7:15 am

Bus departs Courtyard Marriott Pasadena for JPL

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7:30 am – 7:55 am

Check-in & Badging *(JPL Visitor Reception)*

……

7:55 am – 8:10 am

Group Photo *(Space Flight Operations Facility, Mission Support Area)*

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8:15 am – 8:30 am

Overview of the Day *(Main Conference Room 321-B20)*

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8:30 am – 10:00 am

Technical Officer Assistance Panel Session: Managing a NASA Grant
(Main Conference Room 321-B20)
Panelists:
Importance and Requirements for Grant Reporting;
Ben Benvenutti, Lead Contract Specialist for Grants;
Theresa Stanley, Education Grant Officer, NASA Shared Services Center
Grant Civil Rights Compliance, *Bob Cosgrove, NASA Office of Diversity and Equal Opportunity*
Lessons-learned in Grantee Audit Experience, *John Lakey, Director, James S. McDonnell Planetarium, Saint Louis Science Center*
Grant Fraud Awareness, *Chad Weston, Resident Agent in Charge, and Mark Gangloff, Special Agent in Charge, NASA Office of the Inspector General*

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10:00 am – 10:15 am

Break *(light refreshments available)*

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10:15 am – 11:45 am

NASA Mission Directorate and NASA Center Resources Poster Session
(Main Conference Room 321-B20)
Overview of Poster Session: *Leslie Lowes*
Presentation of Posters: *NASA Center and MD Representatives*
Learning Assignment: *All*

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Day 3: Thursday, March 5, 2015

11:45 am – 1:15 pm

Lunch Break and Plenary Speaker *(Main Conference Room 321-B20)*
Pre-paid box lunches delivered
Plenary Speaker: Journey to Mars
Charles Whetsel, Manager, Formulation Office, Mars Exploration Directorate, JPL

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1:15 pm – 2:30 pm

Technical Officer Assistance Session: NASA and Public Accountability Panel
(Main Conference Room 321-B20)
Panelists:
NASA Education and Safety: *David Seidel, Deputy Manager, JPL Education Office*
Exhibits, Artifacts, Space Act Agreements: *Jim Hull, NASA Exhibits Manager*
NASA Express: *Flint Wild, NASA Educational Technology Services (NETS)*
NASA CP4SMPVC Reporting and Evaluation Requirements: *Leslie Lowes, NASA/JPL CP4SMPVC Management Team*
NASA Museum Alliance: *Anita Sohus, NASA Museum Alliance Manager*

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2:30 pm – 2:45 pm

Break/ Change Rooms *(light refreshments available)*

……

2:45 pm – 4:05 pm

Technical Officer/ PI Team Action Planning *(Break-out Rooms)*
CP4SMPVC PI Teams work with Technical Officers to address collaboration and communication issues.
Each team develops and submits an action plan for after Reverse Site Visit.

* What NASA personnel, resources and materials did you learn about that you expect to use in your project?
* How will your NASA Technical Office further assist in your project?
* How can your project connect to the broader efforts of the Co-STEM investment areas?
* With what institution(s) or entity(s) could you develop a potential collaboration? What might the nature of that potential collaboration include?
* What experience or expertise would you like to share with the broader informal education community, and how will you share it?

https://www.surveymonkey.com/s/2015RSV_ActionPlan

Table 1 => 321-217	Table 5 => 321-215
Table 2 => 321-216	(Franklin Institute stay in 321-B20)
Table 3 => 321-B20	Table 6 => 321-B20
(Ames Research Center to 321-129)	Table 7 => 321-B20
Table 4 => 321-215	Table 8 => 321-129

……

4:05 pm – 4:15 pm

Return to Main Conference Room (321-B20)

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4:15 pm – 4:45 pm

Evaluation and Wrap-Up *(Main Conference Room 321-B20)*

……

5:00 pm

Bus departs JPL for Courtyard Marriott Pasadena

……

All Non-Civil Servants MUST be escorted at all times.

Diving Deeper Peer-to-Peer Sessions

Outcomes:

Build knowledge and learn practical tips from the successes, challenges, adaptations, and benefits of implementation from grantee and NASA peers

Build contacts with knowledgeable colleagues as seed for developing or strengthening relationships

Topics:

Online learning/social media/technology

Room *321-163*

Best practices and challenges include these topics suggested by the RSV attendees:

Incorporating technology into informal education programs, live webcasts, Skyping with NASA, use of social media, virtual world experiences and real/virtual world interactions, and running a program across multiple institutions with live virtual technology components, and blended learning.

Partnering with community-based and other organizations

Room *321-129*

Best practices and challenges include these topics suggested by the RSV attendees:

Working with community groups including churches, connecting libraries to NASA, implementing a "train the trainer" model, forming a community of practice, setting up collaborations and partnerships with colleges/ universities, start-up companies/innovators, and engineering/technology companies, and also inter-departmental collaborations within the museum.

Planetarium shows

Room *321-418*

Best practices and challenges include these topics suggested by the RSV attendees:

Developing live planetarium shows, keeping content up-to-date, entertaining while in line for show, digital planetarium production techniques, integrating evaluative practices into full-dome production, dissemination of planetarium shows, and integrating planetarium and Science-on-a-Sphere shows.

Reaching non-traditional audiences

Room *321-B20*

Best practices and challenges include these topics suggested by the RSV attendees:

Novel ways to teach and reach underserved students, multi-cultural content, development of partnerships between rural schools and NASA rich organizations, training and educating non-educators to work with the public, successful family science nights.

Youth programs

Room *321-215*

Best practices and challenges include these topics suggested by the RSV attendees:

Programs for young children, summer camps, school group programs, directing afterschool programs to NASA content, citizen science/real-world tasks, problem-based learning, cohesive lab or experience for students, teen experiences in presenting space-exploration-related programming, recruitment of participants.

Diving Deeper Peer-to-Peer Sessions Continued

Process:

Participants: select a topic to participate in according to your expertise, interest, and/or institutional priorities.

This is your opportunity for Q & A with grantee and NASA peers regarding specific issues related to the room topic. There is no need to draw general conclusions, come to consensus, etc. This is your time to learn from each other's experience.

You have 70 minutes for this session, from 3:10 – 4:20 pm.

- Facilitator/note-taker should review these instructions with the group
- Appoint a time keeper
- Presentations. Find out who is willing to volunteer to give a 3-minute "flash" oral presentations, to frame their project in context of the topic of the group – can refer to 1-pager project summaries. These volunteers should present in succession while the time keeper watches for the 3-minute mark to move on to the next presenter.

  (30 minutes maximum total for all presenters)

  - Presenters name, institution, location, and project title.
  - What NASA content did you address and what components did it consist of (e.g., exhibit, educator professional development, etc.)?
  - What worked well?
  - What challenges did you have? Did you overcome them? What did you do to adapt?
- Q&A. Others who did not present each now have the opportunity to ask related questions of the presenters or others in the group, focusing on successes, challenges, and solutions. 2-3 minutes will be allowed for responses to their question. The issue does not need to be fully resolved, but plans for individual or group follow-up should be made if needed. All group members should be given the opportunity to ask their question.

A facilitator/note-taker from JPL will capture:

- names and organization of participants
- key points of the discussion
- any action items or outstanding questions to be addressed after the session

You will not be required to report out to the larger group. Follow-on discussion on this topic will be continued in another venue following the Reverse Site Visit.

Suggested Reading

- 2013 Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-year Strategic Plan
  http://www.whitehouse.gov/sites/default/files/microsites/ostp/stem_stratplan_2013.pdf

- 2014 Progress Report on Coordinating Federal Science, Technology, Engineering, and Mathematics (STEM) Education
  http://www.whitehouse.gov/sites/default/files/microsites/ostp/STEM-ED_FY15_Final.pdf

- One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics:
  http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf

- Prepare and Inspire: K12 Science, Technology, Engineering, and Math (STEM) Education for America's Future:
  http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-stemed-report.pdf

- Common Guidelines for Education Research and Development A Report from the Institute of Education Sciences, U.S.Department of Education and the National Science Foundation, August 2013
  http://www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf

- The Framework for Evaluating Impacts of Informal Science Education Projects: Report from a National Science Foundation Workshop, National Science Foundation, March 2008
  http://informalscience.org/documents/Eval_Framework.pdf

- Principal Investigator's Guide: Managing Evaluation in Informal STEM Education Projects, Center for Advancement of Informal Science Education, Association of Science-Technology Centers, 2011
  http://informalscience.org/documents/CAISEVSAPI_guide.pdf

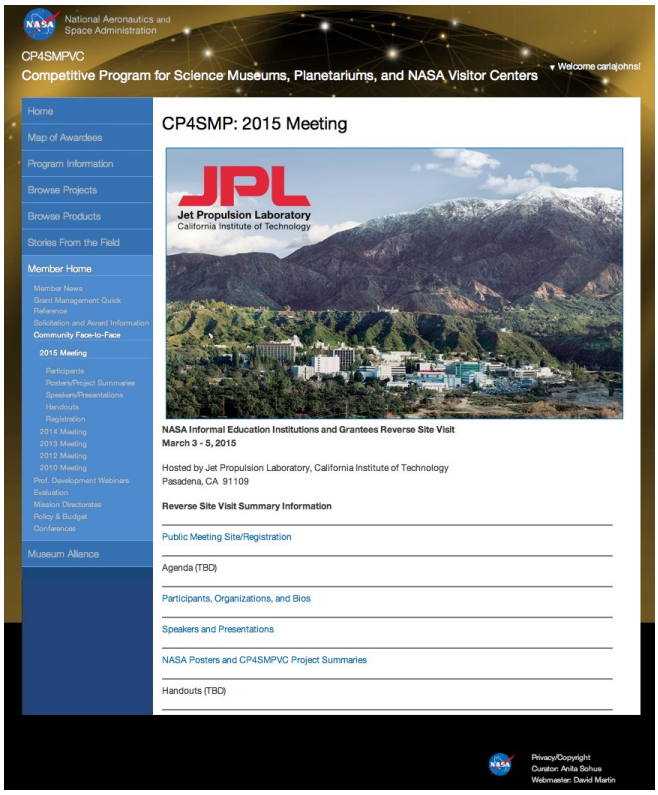
- Designing Evaluations, Government Accountability Office, 2012
  http://www.gao.gov/assets/590/588146.pdf

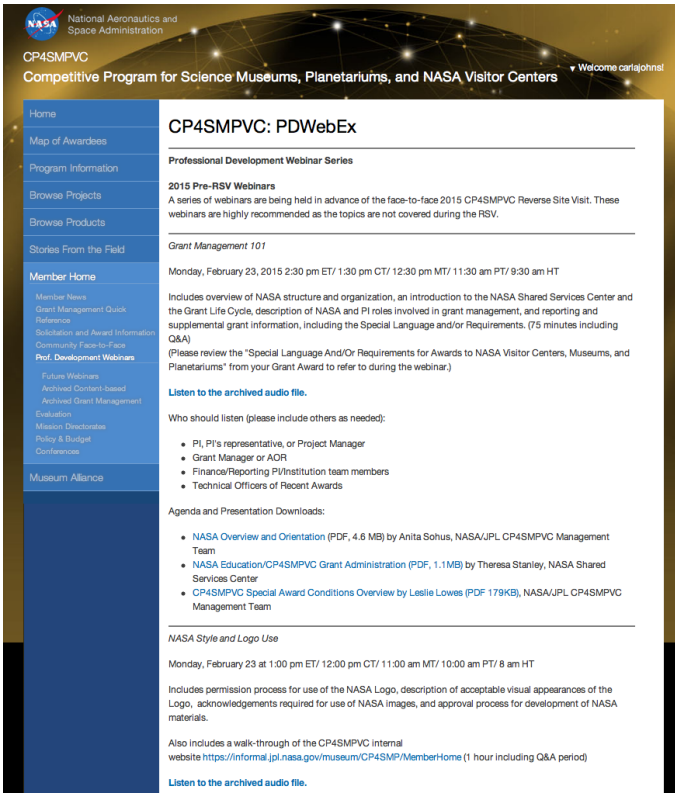
- Learning Science in Informal Environments: People, Places, and Pursuits, National Research Council of the National Academies, 2009
  http://www.nap.edu/catalog/12190/learning-science-in-informal-environments-people-places-and-pursuits

- Surrounded by Science: Learning Science in Informal Environments, National Research Council of the National Academies, 2010
  http://www.nap.edu/catalog/12614/surrounded-by-science-learning-science-in-informal-environments

Documenting the Meeting

The CP4SMPVC internal website contains the documentation from the 2015 Reverse Site Visit, including the pre-RSV administrative and content-based webinars. This will be your access point for participant and speaker lists, speaker presentations, posters from the NASA Centers and Mission Directorates, 1-page and PowerPoint descriptions of grantee projects, and more.





https://informal.jpl.nasa.gov/museum/CP4SMP/2015meeting

https://informal.jpl.nasa.gov/museum/CP4SMP/PDWebEx

Please use your Museum Alliance login and password to gain access to the site.*

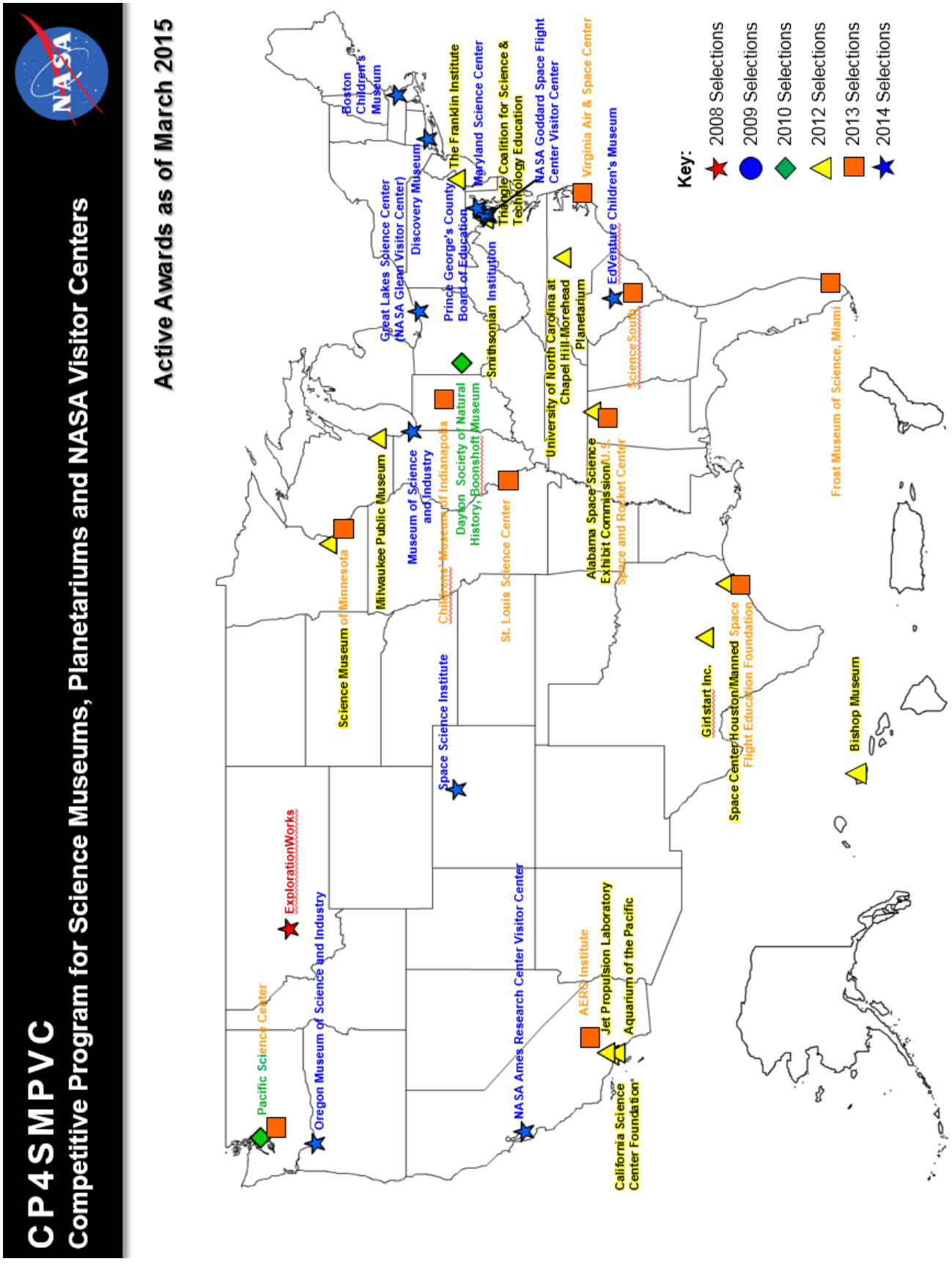
You can also review the archives of past Reverse Site Visits from this location, along with other frequently-requested information from our internet community – see the left hand navigation bars.

*If you have not yet done so, please join the Museum Alliance at this link:

https://informal.jpl.nasa.gov/museum/About/Application

Your registration will take up to 2-3 days to process.

Map of Awardees



Technical Notes

JPL Informal Education Office POCs:

Leslie Lowes – Office: 818-373-7734, Cell: 818-389-9516

Anita Sohus – Office: 818-354-6613, Cell: 818-636-7367

Jessica Parker – Office: 818-354-6986,Cell: 626-379-2345

Suggested advance reading:

2013 Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-year Strategic Plan http://www.whitehouse.gov/sites/default/files/microsites/ostp/stem_stratplan_2013.pdf

2014 Progress Report on Coordinating Federal Science, Technology, Engineering, and Mathematics (STEM) Education http://www.whitehouse.gov/sites/default/files/microsites/ostp/STEM-ED_FY15_Final.pdf

General:

Access to JPL: Bring your **government-issued photo ID** (e.g., driver's license, NASA badge) **every day**. You will only be able to get on-site if you have pre-registered for the RSV AND you bring your photo ID.

Dress will be business casual. The walk to the conference room is about 3 blocks and has a slight slope to it as well as some stairs.

On Tuesday you'll want to grab coffee/breakfast at the hotel. On Wednesday and Thursday we will have coffee, tea, bottled water, and light snacks available in the conference room.

On Tuesday you will buy your own lunch in a JPL Cafeteria (cash or credit/debit card). On Wednesday and Thursday your previously-ordered (through the survey) box lunches will be delivered to the conference room; pay by cash or check (made out to Culinart) Tuesday evening or no later than Wednesday morning at check-in. (As a reminder, the cost for Wed/Thur were: sandwich $9.75, salad $10.75, bottled water $1.50, canned soda $1.25, plus 10% tax.)

Civil servants need to bring cash to pay for the bus between the hotel and JPL. Cost: $14/ day.

The restaurant for the group dinner on Wednesday evening will accept cash or credit/debit cards. Please pay them directly while we are at the restaurant. Cost: $28 (includes starter, entrée, beverage, dessert, tax, and tip; alcohol is extra).

Weather:

Our weather has been very changeable and unpredictable lately (but no snow!) It's likely we will see some much-needed precipitation here next week, with highs in the 60's and lows in the 40's, so plan accordingly. We will have buses for the tour of JPL, but you'll still want appropriate shoes and outerwear.

Here are a couple of reliable weather sites for this area:

NOAA: http://forecast.weather.gov/MapClick.php?site=lox&smap=1&textField1=34.19917&textField2=-118.18694#.VOu33EunUa0

Weather Channel: http://www.weather.com/weather/tenday/l/La+Canada+Flintridge+CA+91011:4:US

Technical Notes

TUESDAY, March 3, 2015

Bus Departs Courtyard Marriott @ 8:15am

Morning Tour

8:30am Check-in @ Visitor Center

Bring government-issued photo ID (e.g., driver's license, NASA badge)

Reminder: Wear comfortable walking shoes (we will have buses available)

Cameras are allowed

Plan to get your morning coffee/breakfast at the hotel

Bus Departs JPL for Hotel @Noon for those not participating in afternoon sessions

Lunch

Self-purchased lunch onsite at JPL Cafeteria

Cash, debit/credit accepted; request receipts if needed

Bus Departs Courtyard Marriott @12:30pm for late arrivals participating in afternoon sessions at JPL

Afternoon Topical Meetings

1:00pm – 4:00pm

Bus Departs JPL for Hotel @ 4:15pm

Dinner on your own – see page 22 for a list of a few of the many restaurants within walking distance of hotel

WEDNESDAY, March 4, 2015

Bus Departs Courtyard Marriott @ 7:15am

RSV Meeting will be in 321-B20.

7:30 a.m. arrival for Visitor Center Check-in; group will be escorted to building location

321-B20 is in the basement of the Flight Projects Building.

You must take the elevator in the lobby down to the basement

Coffee, tea, and light snacks will be provided

There are 4 restrooms located in the center of the floor. Exit room, turn right.

Lunch

Previously-purchased boxed lunches will be delivered to our conference room

Cash or check only, payable to Culinart

Bus Departs for Hotel @ 5:00pm

WEDNESDAY, March 4, 2015 Continued

Group Dinner @ 6:45pm

El Cholo Café, 260 E Colorado Blvd, Pasadena, CA 91101

Self-purchased at a flat rate of $28, which includes starter, entrée, beverage, dessert, tax and tip. Alcohol extra.

Californian-influenced Mexican dining

Located in the Paseo Colorado shopping center

It is a 10-15 minute walk from the hotel to the restaurant. Exit hotel. Walk south on Fair Oaks Ave. Turn left onto Colorado Blvd. The shopping center is immediately after Marengo Avenue on the right side of the street. El Cholo Café is located upstairs on the 2nd floor.

Casual dress

THURSDAY, March 5, 2015

Bus Departs Courtyard Marriott @ 7:15am

RSV Meeting will be in 321-B20 (see enclosed map).

7:30 a.m. arrival for Visitor Center Check-in, group will be escorted to building location

321-B20 is in the basement of the Flight Projects Building

You must take the elevator in the lobby down to the basement

Coffee, tea, and light snacks will be provided

There are 4 restrooms located in the center of the floor. Exit room turn right.

Lunch

Previously-purchased boxed lunches will be delivered to our conference room

Cash or check only, payable to Culinart

Bus Departs for Hotel @ 5:00pm

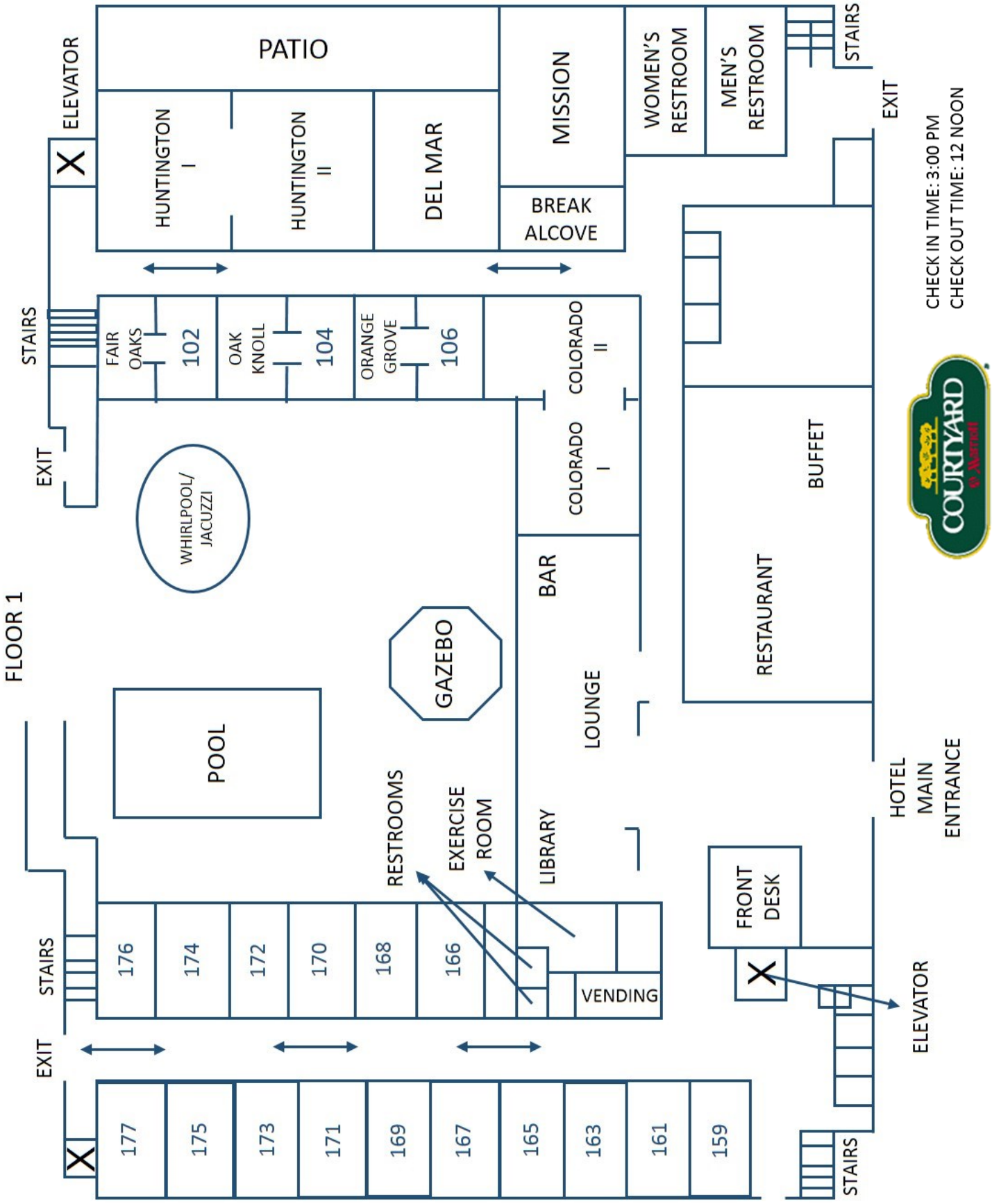
Other useful Information:

If you are driving yourself:

- It is a 10-minute drive from the Hotel to JPL. Refer to map/directions at http://www.jpl.nasa.gov/about_JPL/maps.php
- JPL is located at 4800 Oak Grove Drive, Pasadena, CA 91109. As you approach JPL you will come to a security checkpoint. Please tell the officer that you are attending the Reverse Site Visit with the Education Office. He or she will give you a pass for the visitor parking lot and direct you to the lot. Once you have parked, walk across the street towards the Visitor Reception Center. An Education Office representative will greet you, help you check in, and escort you to the meeting location.
- The distance between JPL/Hotel and LAX is approximately 30 miles. In rush hour traffic this could take 1.5 to 2 hours.
- Wi-Fi Guest Network login instructions

  - Select **JPLGuestInternet** then click ACCEPT when prompted

Courtyard Marriott Hotel Map



Pasadena Neighborhood Guide

Coffee & Breakfast

Marstons Restaurant:

Breakfast: 730am -11am

Voted "Best Breakfast in California" by the Food Network Magazine!

Intelligensia Café: 55 E. Colorado Blvd.

Open: 6am-Midnight

Designed by MASS Architecture, the coffeebar plays host to the full menu of beautiful single origins, elegant teas, and refreshing iced drinks. Adjacent to the brew-bar are two gleaming espresso machines built in to a beautiful bartop constructed of Douglas Fir.

Copa Vida: 70 S. Raymond Avenue

Open: 7am-10pm Daily

Cup of Coffee. Cup of Tea. Cup of Life. Copa Vida... an artisan coffee shop featuring espresso and coffee from roasters such as San Francisco-based Ritual Coffee. Sandwiches and Salads served as well.

Dining

Umami Burger: 49 E. Colorado Blvd.

Open: 11am-11pm Daily

Conceived as “fine-dining fast food,” Umami Burger creates unique combinations of ingredients naturally high in umami, the savory ‘fifth taste.’ The result is a sophisticated selection of burgers, sides and accompaniments.

Mi Piace Italian Kitchen: 25 E. Colorado Blvd.

Open: 730am-1130pm Daily

Voted "Best Italian Restaurant" for a decade. Authentic Italian cuisine. Moderate prices.

Sushi Roku: 33 Miller Alley (by iPic Theatre)

Open: 530pm-1030pm Daily

A contemporary spin on classic Japanese cuisine, blending innovation with tradition to redefine the sushi experience.

Drinks & Dessert

Vertical Wine Bistro: 70 N. Raymond Ave. Upstairs

Open: Tues-Thurs: 5pm-Midnight

Signature bistro dishes are paired with a dazzling selection of more than 650 wines from around the world.

POP Champagne and Dessert Bar:

33 E. Union Street

Open: 5pm-close

An extensive selection of Champagnes, sparkling wines, dessert wines and artisanal beers, to be enjoyed with our seasonal dinner menu, cheeses, charcuterie, and of course, desserts

The Blind Donkey: 53 E. Union Street
Happy Hour: Mon-Fri 4-7pm

Pasadena's premier Whiskey Bar (68+ in stock) and neighborhood Game Room featuring an extended bar food menu is packed with elevated pub fare and kicked-up master creations that use French Fries as their canvas (10 different kinds!)

Bodega Wine Bar: ***(In Paseo Colorado by El Cholo Café)***

Happy Hour: Mon-Fri 5-7pm

Great Selection of Wine, Beer, and Soju plus snacks and pizzas with a fun candlelight ambiance.

TRANSPORTATION

Mt. Wilson
25 miles
40.23 kilometers

Griffith Park
16 miles
26 kilometers

Palm Springs
104 miles
167 kilometers

Rodeo Drive, Beverly Hills
22 miles
35.41 kilometers

San Diego
129 miles
227 kilometers

Santa Barbara
99 miles
160 kilometers

Santa Monica Beach
25 miles
40.23 kilometers

TO AIRPORTS

Burbank/ Bob Hope Airport (BUR)
16 miles
25.75 kilometers
818-840-8840
bobhopeairport.com

Long Beach Airport (LGB)
38 miles
45 kilometers
562-570-2600
lgb.org

Los Angeles International Airport (LAX)
29 miles
46.67 kilometers
310-646-5252
lawa.org

Ontario International Airport (ONT)
37 miles
59.55 kilometers
909-937-2700
lawa.org/welcomeont.aspx

AIRPORT TRANSPORTATION

Integrated Transportation Services, Inc.
800-487-4255
itslimo.com

Union Station Flyaway This nonstop bus service goes to and from LAX via Union Station in downtown

Los Angeles. From Union Station, passengers may ride the Gold Line light rail to Pasadena. Flyaway roundtrip fee: $16.
866-435-9529
lawa.org

Prime Time Shuttle
310-536-7922
800-733-8267
primetimeshuttle.com

SuperShuttle
800-258-3826
supershuttle.com

Xpress by Execucar
800-427-7483
execucarexpress.com

CITY TRANSPORTATION

Pasadena ARTS Bus The ARTS buses travel between Old Pasadena, South Lake Avenue, and the Playhouse District. They are easily recognizable by their colorful depictions. Stops are designated throughout the city by a pink triangle marked "ARTS." Adult fare is $0.75.
626-398-8973
cityofpasadena.net/transportation

Foothill Transit Authority
These buses serve the San Gabriel and Pomona valleys. Base fare is $1.25.
800-743-3463
foothilltransit.org

Metro Rail/ Metro Bus
The Metro Gold Line services Pasadena to Union Station in downtown L.A. with connections to other lines. Base fare is $1.50. Metro bus service runs throughout Los Angeles County. Base fare is $1.50.
323-466-3876
metro.net

Taxis
City Cab
626-584-1000
888-248-9222

United Taxi
626-768-4999
800-822-8294

Details are subject to change. For the latest information, go to VisitPasadena.com.

EASY ACCESS

Get to and around Pasadena and neighboring Los Angeles areas trouble-free, thanks to close proximity and convenient transit options.

Pasadena is an invitingly walkable community, but it also features a smart, streamlined transit system. Shuttles, buses, and light rail can take you anywhere in the city and to landmarks in the greater Los Angeles area. Go visit the Norton Simon Museum by day and catch an evening Lakers game at the STAPLES Center. And don't forget that four regional airports service visitors to Pasadena daily.

{ RAIL }

The Gold Line is a 13.7-mile light rail line within the Los Angeles-area Metro Rail network that transports passengers from Pasadena to Union Station in downtown Los Angeles. Take it to connect to other Los Angeles rail lines or Amtrak. Trains operate daily and include six stops in Pasadena. Purchase tickets from self-service ticket vending machines at Metro Rail stations.

Cost is $1.50 one way.
323-466-3876
metro.net
cityofpasadena.net/transportation/gold_line

{ DRIVING DISTANCES }

Anaheim, Disneyland
35 miles
56.33 kilometers

Downtown Los Angeles
10 miles
16 kilometers

Hollywood
16 miles
25.75 kilometers

FACT

First opened for use in 1940, the Arroyo Seco Parkway, formerly known as the Pasadena Freeway, holds the distinction of being the first freeway in California and the western United States.

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Reverse Site Visit
Wednesday and Thursday March 4-5, 2015

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